

The Brown Hairstreak: *Thecla betulae* L.

By T. W. C. TOLMAN, Ph.D., F.R.E.S. *

II: Notes on Rearing

Rearing *betulae* from ova is straightforward. The twigs carrying the ova should be allowed to dry for several days before storing in plastic boxes for the winter. A cool garage is a good place for storage but it is wise to examine the boxes frequently for condensation and to ensure that the twigs are free from fungal infection. To minimise this possibility, as much wood as allows convenient handling with fine forceps should be removed from around the ovum. This also facilitates location of the newly-hatched larvae and for this reason I prefer not to use paper liners as an absorbent for moisture. Any infected wood should be pared away with a sharp, clean knife. For labelling boxes I prefer small cards placed inside the containers.

In captivity, *betulae* ova start to hatch in the third week of March, but this may vary according to the time the ova are removed from the wild. In the middle of March therefore, some clean blackthorn stems should be brought indoors and kept in water. The warmth greatly accelerates bud development and ensures an adequate food supply for the larvae in their early days.

When laying out the ova bearing twigs, I try to arrange for all the eggs to be visible from the top of the box and in this way, a larva betrays its presence by its empty egg shell. Freshly hatched larvae are transferred to another plastic box containing a small twig of foodplant. When all the larvae have been accounted for, the twigs carrying the empty egg cases are discarded. Subsequent hatchings are then apparent at a glance. The risk of fungal growth on unhatched ova is one disadvantage of placing foodplant in the winter storage containers. In addition, I note that newly-hatched larvae have more difficulty in locating their food if distracted by a large number of dead twigs. The quantity of foodplant used should always be minimal: one tiny bud per newly-hatched caterpillar per day is more than sufficient. This eliminates condensation along with its ever attendant risk of disease. It also makes it easier to find the larvae when replenishing the foodplant. I always remove the foodplant used in the previous days feeding, having first accounted for all the larvae, and I tend to be fairly rough in my treatment of those which seem reluctant to relinquish old quarters. The caterpillars are, however, remarkably tolerant of abuse and losses at this, or indeed, any other stage occur only rarely.

Throughout its larval life, *betulae* does not seem to object to crowding and I am quite sure this is one Lycaenid which does not indulge in cannibalism.

As the larvae grow and foodplant requirements increase, rearing boxes will require absorbent layers of papers to deal with excess moisture. I generally use newsprint. Too much

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paper will rapidly desiccate the foodplant and a compromise between the two conflicting needs has to be found by trial and error.

As a pupation site, *betulae* displays a strong attraction for the folds in the lining paper. When changing the foodplant, old liners carrying pupae may be transferred intact to a separate box. Several days should elapse before attempting to handle pupae.

As an emergence "cage", I use a plastic box carpeted with corrugated paper and draped with paper towels pinched in the box lid. The towels serve the dual purpose of providing a more secure foothold for freshly emerged imagines — a particularly vulnerable state — and absorbing expelled meconium. The height of the boxes is unimportant but need not be more than $1\frac{1}{2}$ inches. Pupae are probably best handled with the aid of a small spoon and soft brush.

If the pupae are stored in a cool place, such as a larder, the adults, after they emerge, will remain quiescent indefinitely.

In my almost fanatical attachment to the belief that excessive moisture is responsible for more deaths amongst livestock than any other single agency, I never spray pupae. However, I confess that as an act of blind faith I periodically breathe into the cool boxes in the hope that the small quantity of condensation precludes the risk of dehydration! I cannot say that this curious practice is effective but I can claim to have lost only a negligible number of pupae.

Generally speaking, no two individuals will adopt identical procedures for rearing livestock. Usually, in terms of results, the differences are inconsequential and where this is true, there is no justification for criticising an alternative technique. In strongly recommending, therefore, against one particular method of rearing *betulae* from ova, I do so on the basis of the numerous reports I've received concerning its high failure rate. The method, which enjoys considerable popularity, is that of attempting to reproduce natural conditions by tying ova-bearing twigs to an outdoor blackthorn bush. I have no personal experience of the method and can only speculate on the cause(s) of its mediocre success. As a general observation, I offer the tentative proposition that only a superficial correspondence to natural conditions is attained. The siting of ova on the foodplant and the local conditions of humidity and temperature (this is appreciably higher in proximity to heated buildings) are theoretically relevant considerations which, collectively, may represent a significant departure from optimum survival conditions. "Sleeving" with the finest netting may exclude most parasites — certainly not those enclosed by the net — but the finer the netting the greater will be the restriction to air flow within the sleeve and here, again, I would indict excessive moisture as the arch-enemy of larvae. It is a fact in most cases, that under truly natural conditions, a dormant species is subjected to rain and damp air, but it may

be that compensation is concomitantly effected by greater exposure to drying winds and lower temperatures.

Whatever the reasons for the low success rate of the so-called natural method of rearing, one fact strikes me rather forcibly; namely, that in nature the losses accompanying the transition from ovum to imago are, on average, close to 100%. It is manifestly obvious that if we, as rearers of butterflies and moths, need to start with one hundred eggs to sustain a reasonable probability of ending up with a pair of adult insects, which may not even be of different sexes, most of us would think twice before giving the time and energy to this facet of our hobby. Nature is indeed wonderful but it doesn't always answer to our needs.

TRIAENODES REUTERI MCLACHLAN IN KENT (TRICHOPTERA: LEPTOCERIDAE). — During the British Entomological Society field meeting at Higham Canal in N.W. Kent on 21.6.75 I collected a number of caddis-flies at light which I submitted to P. C. Barnard at the British Museum for identification. Amongst this material he found 1 ♀ *Trianodes* sp. which he could only tentatively name *simulans* Tjeder as the ♀♀ of this genus were difficult to identify. Since then, he has been able to characterise the ♀ genitalia of *simulans* and *reuteri* McLachlan (*Ent. Gaz.* 29: 244-246). On re-examining the genitalia of my specimen I was able to identify it positively as *reuteri* McLachlan. The locality fits in well with its known preference for brackish water. I has been found, so far, in Britain only from Spurn Head, Yorkshire in 1963 and Rainham, Essex in 1976. — S. E. Whitebread, Hofackerstr. 7, CH-4132 Muttenz, Switzerland.

SCARCE PROMINENT (ODONTOSIA CARMELITA ESP.) AT EPSOM DOWNS, SURREY. — On the night of 19th May 1979 I was very pleased to find a single specimen of this fine member of the *Notodontidae* in my garden m.v. trap. It was a clear, cool, starry night with a south westerly breeze.

O. carmelita has, according to South, been reported from “. . . the Weybridge district, Dorking and Haslemere, in Surrey . . .” and “certainly appears to be distinctly local”. Its occurrence here is particularly encouraging since birch trees are particularly numerous in the locality and it may well breed at Epsom Downs if circumstances favour this.

On 13th May I boxed a typical spring brood specimen of the rather local Purple Thorn (*Selenia tetralunaria* Hufn.) which had alighted upon my garden fence whilst the light trap was in operation.

As a further note, the list of Prominents I have taken so far this spring includes the Swallow Prominent (*Pheosia tremula* Clerck), the Coxcomb Prominent (*Lophopteryx capucina* L.) and the Iron Prominent (*Notodonta dromedarius* L.) — M. J. SYMES, 2 Montrouge Crescent, Epsom, Surrey, KT17 3NY.